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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/072,984	02/12/2002	Wayne E. Shanks	1689.0240000	3525
28393	7590	04/20/2004	EXAMINER	
STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C. 1100 NEW YORK AVE., N.W. WASHINGTON, DC 20005			TRIEU, VAN THANH	
			ART UNIT	PAPER NUMBER
			2636	

DATE MAILED: 04/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/072,984	SHANKS ET AL.	
	Examiner Van T Trieu	Art Unit 2636	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 12 February 2002.
 2a) This action is **FINAL**. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-20 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1-20 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____ .
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>2/27/03</u> .	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
	6) <input type="checkbox"/> Other: _____ .

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1, 6-10 and 15-20 are rejected under 35 U.S.C. 102(b) as being anticipated by **Vega et al [US 6,147,605]**.

Regarding claim 1, the claimed RFID integrated circuit IC (RFID 100 with IC 116, see Figs. 1 and 2); and comprising a first antenna pad (antenna112 with pad 230, see Figs. 3, 4 and 6); and the second antenna pad (antenna 114 with pad 232, see Figs. 3, 4 and 6); the first modulator coupled to the first antenna pad, wherein the first modulator is configured to backscatter modulate a first symbol received from the first antenna pad with a response symbol, wherein the first modulator is configured to output the backscatter modulated first symbol to the first antenna pad (the first modulation 221 or 400 received the backscatter signal from the memory 220 via the controller 218 and the write decoder 216, and then the controller 218 controls to output the received backscatter modulated signal to the first antenna 112 via the load modulator 222, see Figs. 3-6 and 20, col. 4, lines 2-37, col. 5 , lines 61-67, col. 6, lines 1-67, col. 7, lines 1-36 and col. 13, lines 1-23); and the second modulator coupled to said second antenna

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pad, wherein the second modulator is configured to backscatter modulate a second symbol received from the second antenna pad with the response symbol, wherein the second modulator is configured to output the backscatter modulated second symbol to the second antenna pad (the second modulation 221 or 400 received the second backscatter signal from the memory 220 via the controller 218 and the write decoder 216, and then the controller 218 controls to output the second received backscatter modulated signal to the second antenna 112 via the load modulator 222, wherein the second backscatter modulated signal is different from the first backscatter modulated signal in amplitudes and information data, see Figs. 3-6, 12 and 20, abstract, col. 4, lines 2-37, col. 5 , lines 61-67, col. 6, lines 1-67, col. 7, lines 1-36 and col. 13, lines 1-23).

Regarding claim 6, all the claimed subject matters are cited in respect to claim 1 above.

Regarding claim 7, all the claimed subject matters are cited in respect to claim 1 above, and including the receiver (the IC circuit 116 including a rectifier 214 and a receiving write decoder 216 for receiving signals from the reader 204 and exciter 202, see Figs. 3 and 16, col. 4, lines 25-37, col. 5, lines 61-67, col. 6, lines 1-33 and col. 11, lines 39-47).

Regarding claim 8, all the claimed subject matters are cited in respect to claim 1 above, and the state machine (the write decoder 216 and controller 218 controls to generate

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backscatter signal in response to the received signal, see Figs. 3, 4 and 6, col. 5, lines 61-67 and col. 6, lines 1-49).

Regarding claim 9, all the claimed subject matters are cited in respect to claim 1 above, and including the data programming, see col. 6, lines 50-53 and col. 10, lines 1-11).

Regarding claim 10, all the claimed subject matters are cited in respect to claim 1 above, and including the stored tag ID number (the memory 220, see Figs. 15 and 20, col. 9, lines 66-67, col. 10, lines 1-11 and col. 13, lines 1-21).

Regarding claim 15, all the claimed subject matters are cited in respect to claims 1 and 8 above.

Regarding claim 16, all the claimed subject matters are cited in respect to claim 15 above.

Regarding claim 17, all the claimed subject matters are cited in respect to claims 9 and 16 above.

Regarding claim 18, all the claimed subject matters are cited in respect to claims 10 and 17 above.

Regarding claim 19, all the claimed subject matters are cited in respect to claims 1 and 10 above, and including substrate (the substrate 110 having antennas 112, 114, a rectifier 214 and a receiving write decoder 216 for receiving RF signal, see Figs. 1 and 2, col. 4, lines 1-59 and col. 5, lines 16-60); and the first charge pump (the charge pump 223, see Figs. 3, 4 and 15, col. 6, lines 13-53 and col. 10, lines 6-64); and the data recovery circuit (the write decoder 216, see Fig. 3, col. 6, lines 25-38); and the backscatter switch (the modulation impedance 400 and modulation switch 402, see Figs. 5 and 8-13, col. 7, lines 1-23 and 37-67, col. 8, lines 1-67 and col. 9, lines 1-13); and the DC voltage (the rectifier 214, see Figs. 3 and 16, col. 6, lines 19-53 and col. 11, lines 39-64); and the means for communicating with a reader (the modulated bit stream of information logic, see Fig. 5, col. 7, lines 1-23).

Regarding claim 20, all the claimed subject matters are cited in respect to claim 19 above, and including the NULL symbol (the OFF operation of no load modulation, see col. 7, lines 8-23).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

2. Claims 2-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Vega et al** [US 6,147,605]

Regarding claim 2, **Vega et al** fails to disclose the second receiver coupled to the second antenna pad, wherein the second receiver receives the symbol from the second antenna pad and outputs a second received signal. However, Vega et al teaches that the first and second antennas 112 and 114 are physically and signally separated to receive different RF signals from the reader 204 and exciter 202. A single rectifier 214 and a receiving write decoder 216 connected to each of the first and second antenna pad 230 and 232 for receiving RF signals from the first and second antenna pads 230 and 232, to output of different signals between the first and second received signals, see Fig. 3, col. 4, lines 1-37, col. 6, lines 1-38. Therefore, it would have been obvious to one skill in the art to recognize that it is a design choice to modified the receiving write decoder into two write decoders for each of the antenna pads, respectively, without

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changing operation functions and results of the RFID tag since the single receiver is capable of receiving different signals from two different antennas.

Regarding claim 3, all the claimed subject matters are discussed in respect to claim 2 above, and including the state machine (the write decoder 216 and controller 218 controls to generate backscatter signal in response to the received signal, see Figs. 3, 4 and 6, col. 5, lines 61-67 and col. 6, lines 1-49).

Regarding claim 4, all the claimed subject matters are discussed in respect to claim 3 above, and including the data programming, see col. 6, lines 50-53 and col. 10, lines 1-11).

Regarding claim 5, all the claimed subject matters are discussed in respect to claim 4 above, and including the stored tag ID number (the memory 220, see Figs. 15 and 20, col. 9, lines 66-67, col. 10, lines 1-11 and col. 13, lines 1-21).

Conclusion

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Bandy et al discloses a charge pump for converting high frequency signal to a substantially DC voltage, comprising and RFID IC includes a first and second antennas, antenna pads, receivers, modulators and a state machine. [US 6,549,064]

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Nysen discloses an enhanced backscatter RFID tag reader system responsive a return signal from an RFID tag having an RF output modulating an interrogation signal over time in a pattern corresponding to a sequence of symbols. [US 6,433,671]

Veghte et al discloses a reader interrogating a remote transponder having a double patch antenna, a modulator and a memory. [US 5,771,021]

Tuttle discloses an RFID system comprising a two-dimensional antenna configuration having a dipole in combination with a loop antenna or a second dipole. [US 5,719,586]

4. Any inquiry concerning this communication or earlier communications from examiner should be directed to primary examiner **Van Trieu** whose telephone number is (703) 308-5220. The examiner can normally be reached on Mon-Fri from 7:00 AM to 3:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. **Jeffery Hofsass** can be reached on (703) 305-4717.

The central office facsimile number is (703) 872-9306.



Van Trieu
Primary Examiner
Date: 4/16/04